

IN THE CLAIMS:

1. (Currently Amended) A pilot valve for use in controlling a pressure reducing valve of a water supply system, said valve comprising:

 biasing means to control a gate for controlling water flow through a control chamber having
 an outlet connectable so that water pressure at the outlet is substantially equal to the outlet pressure
 of the pressure reducing valve being controlled ;

 a second chamber sealed by a second chamber diaphragm into which control pressure is
applicable for also controlling the operation of the gate, whereby, in use, an increase in control
pressure acts to reduce water flow through the gate; and

 wherein the side of the diaphragm against which the control pressure is not applied, is in fluid
communication with the control chamber.

2. (Previously Amended) A pilot valve according to claim 1 wherein said biasing means is
biased to open said gate.

3. (Previously Amended) A pilot valve according to claim 2 wherein said biasing means is
rigidly connected to said gate by a mechanical linkage.

5.4 (Currently Renumbered) A pilot valve according to claim 3 wherein the diaphragm is rigidly
connected to said biasing means via a mechanical linkage.

6.5 (Currently Renumbered) A pilot valve according to claim 1 wherein said biasing means is
a spring means.

76. (Currently Renumbered) A pilot valve according to claim 6 wherein said spring means is a helical spring.

87. (Currently Renumbered) A pilot valve according to claim 1 further including a control chamber diaphragm.

98. (Currently Amended) A pilot valve according to claim 8 7 wherein said biasing means is located on the opposite side of said control chamber diaphragm to said control chamber.

109. (Currently Amended) A pilot valve according to claim 8 7w wherein the ratio of the area of said control chamber diagram to said second chamber diaphragm is 2:1 or less.

110. (Currently Amended) A pilot valve for use in controlling a pressure reducing valve in a water supply system, said valve comprising:

biasing means to control a gate for controlling water flow through a control chamber having an outlet connectable so that water pressure at the outlet is substantially equal to the outlet pressure of the pressure valve being controlled;

a second chamber sealed by a second chamber diaphragm into which control pressure is applicable for also controlling the operation of the gate, whereby, in use, an increase in control pressure acts to reduce water flow through the gate, and the control pressure is different from the outlet pressure of the pressure reducing valve being controlled;

wherein the side of the diaphragm against which the control pressure is not applied, is in fluid communication with the control chamber;

wherein the biasing means is biased to open the gate and is rigidly connected to the gate by a mechanical linkage;

wherein the diaphragm is rigidly connected to the gate and the biasing means by a mechanical linkage; and

further including a control chamber diaphragm wherein said biasing means is located on the opposite side of the control chamber diaphragm to the control chamber.

11. (New) A pilot valve for use in controlling a pressure reducing valve of a water supply system, said pilot valve comprising

biasing means to control a gate for controlling water flow through a control chamber having an outlet connectable so that water pressure at the outlet is substantially equal to the outlet pressure of the pressure reducing valve being controlled;

a second chamber sealed by a second chamber diaphragm into which control pressure is applicable for also controlling the operation of the gate, whereby, in use, an increase in control pressure acts to reduce water flow through the gate; and the control pressure is different from the outlet pressure of the pressure reducing valve being controlled;

wherein the side of the diaphragm against which the control pressure is not applied, is in fluid communication with the control chamber; and

wherein the control chamber is at least partly bounded by a control chamber diaphragm in addition to the second chamber diaphragm and the biasing means is isolated from the control chamber by said control chamber diaphragm.

12. (New) A pressure controlling apparatus including a pilot valve and a pressure reducing valve for a water supply system, said pilot valve controlling said pressure reducing valve, wherein said pilot valve comprises

biasing means to control a gate for controlling water flow through a control chamber having an outlet connected so that in use water pressure at the outlet is substantially equal to the outlet pressure of the pressure reducing valve;

a second chamber sealed by a second chamber diaphragm into which control pressure is applicable for also controlling the operation of the gate, whereby, in use, an increase in control pressure acts to reduce water flow through the gate and the pressure reducing valve; and the control pressure is different from the outlet pressure of the pressure reducing valve; and

wherein the side of the diaphragm against which the control pressure is not applied, is in fluid communication with the control chamber.

13. (New) A pressure controlling apparatus including a pilot valve and a pressure reducing valve for a water supply system, said pilot valve controlling said pressure reducing valve, wherein said pilot valve comprises

biasing means to control a gate for controlling water flow through a control chamber having an outlet connected so that in use water pressure at the outlet is substantially equal to the outlet pressure of the pressure reducing valve;

a second chamber sealed by a second chamber diaphragm into which control pressure is applicable for also controlling the operation of the gate, whereby, in use, an increase in control

pressure acts to reduce water flow through the gate and the pressure reducing valve, and the control pressure is different from the outlet pressure of the pressure reducing valve;

wherein the side of the diaphragm against which the control pressure is not applied, is in fluid communication with the control chamber; and

the control chamber is at least partly bounded by a control chamber diaphragm in addition to the second chamber diaphragm and the biasing means is isolated from the control chamber by said control chamber diaphragm.

14. (New) A pressure controlling apparatus including a pilot valve and a pressure reducing valve for a water supply system, said pilot valve controlling said pressure reducing valve, wherein said pilot valve comprises:

biasing means to control a gate for controlling water flow through a control chamber having an outlet connected so that in use water pressure at the outlet is substantially equal to the outlet pressure of the pressure reducing valve;

a second chamber sealed by a second chamber diaphragm into which control pressure is applicable for also controlling the operation of the gate, whereby, in use, an increase in control pressure acts to reduce water flow through the gate and the pressure reducing valve; and the control pressure is different from the outlet pressure of the pressure reducing valve;

wherein the side of the diaphragm against which the control pressure is not applied, is in fluid communication with the control chamber;

wherein the biasing means is biased to open the gate and is rigidly connected to the gate by a mechanical linkage;

further including a control chamber diaphragm; and
wherein said biasing means is located on the opposite side of the control chamber diaphragm to the control chamber.

15. (New) A pressure controlling apparatus including a pilot valve and a pressure reducing valve for a water supply system, said pilot valve controlling said pressure reducing valve, wherein said pilot valve comprises:

biasing means to control a gate for controlling water flow through a control chamber having an outlet chamber connected so that in use water pressure at the outlet is substantially equal to the outlet pressure of the pressure reducing valve;

B₁ cont a second chamber sealed by a second chamber diaphragm into which control pressure is applicable for also controlling the operation of the gate, whereby, in use, an increase in control pressure acts to reduce water flow through the gate and the pressure reducing valve; and the control pressure is different from the outlet pressure of the pressure reducing valve;

wherein the side of the diaphragm against which the control pressure is not applied, is in fluid communication with the control chamber;

wherein the biasing means is biased to open the gate and is rigidly connected to the gate by a mechanical linkage;

further including a control chamber diaphragm;

wherein said biasing means is located on the opposite side of the control chamber diaphragm to the control chamber; and

wherein the ratio of the area of said control chamber diaphragm to said second chamber diaphragm is 2:1 or less.